

**AMENDMENTS TO THE CLAIMS**

**1. (Original)** A gene recombination vector containing an expression cassette for enhancing photosynthesis activity, comprising a DNA fragment comprising a gene encoding a protein having FBPase and/or SBPase activities between a Rubisco large subunit gene and an acetyl CoA carboxylase subunit gene.

**2-5. (Cancelled)**

**6. (Original)** The vector as claimed in claim 1, wherein the protein having FBPase and SBPase activities is any one of the followings:

(a) a protein comprising an amino acid sequence described in SEQ ID NO: 5 of Sequence Listing;

(b) a protein comprising an amino acid sequence in which one or several amino acids are deleted, substituted, added or inserted in SEQ ID NO: 5 of Sequence Listing; and having FBPase and SBPase activities; and

(c) a protein having at least 60% or more homology to an amino acid sequence described in SEQ ID NO: 5 of Sequence Listing; and having FBPase and SBPase activities.

**7. (Original)** The vector as claimed in claim 1, wherein the gene encoding a protein having FBPase and SBPase activities is a gene comprising any one of the following DNAs;

(a) DNA comprising a nucleotide sequence described in SEQ ID NO: 6 of Sequence Listing;

(b) DNA comprising a nucleotide sequence in which one or several bases are deleted, substituted, added or inserted in SEQ ID NO: 6 of Sequence Listing, and encoding a protein having FBPase and SBPase activities;

(c) DNA which hybridizes with DNA comprising nucleotide sequence complementary to a DNA comprising a nucleotide sequence described in SEQ ID NO: 6 of Sequence Listing under stringent conditions, and comprises a nucleotide sequence encoding a protein having FBPase and SBPase activities; and

(d) DNA having at least 60% or more homology to DNA comprising a nucleotide sequence described in SEQ ID NO: 6 of Sequence Listing, and comprising a nucleotide sequence encoding a protein having FBPase and SBPase activities.

**8. (Previously Presented)** The vector as claimed in claim 1, wherein the expression cassette has a ribosome-binding site upstream of a translation initiation point of a DNA fragment comprising a gene encoding a protein having FBPase and/or SBPase activities.

**9. (Original)** The vector as claimed in claim 8, wherein the expression cassette has a promoter upstream of a ribosome-binding site, and a terminator downstream of DNA fragment comprising a gene encoding a protein having FBPase and/or SBPase activities.

**10. (Original)** The vector as claimed in claim 9, wherein the promoter and the terminator are a promoter and a terminator derived from tobacco chloroplasts, respectively.

**11. (Previously Presented)** The vector as claimed in claim 1, wherein the Rubisco large subunit gene and the acetyl CoA carboxylase subunit gene are genes derived from tobacco, respectively.

**12. (Original)** A recombinant gene vector comprising an expression cassette containing a DNA fragment comprising a gene encoding a protein having FBPase and/or SBPase activities between a tobacco-derived Rubisco large subunit gene and an acetyl CoA carboxylase subunit gene, having a ribosome-binding site upstream of a translation initiation point of the DNA fragment, having a tobacco-derived promoter between a Rubisco large subunit gene and a ribosome-binding site, and having a tobacco-derived terminator between the acetyl CoA carboxylase subunit gene and the DNA fragment.

**13. (Previously Presented)** A transformed chloroplast characterized in that the vector according to claim 1 is introduced into chloroplasts.

**14. (Original)** A plant containing transformed chloroplasts according to claim 13.

**15. (Original)** The plant as claimed in claim 14, wherein the plant is tobacco.

**16. (Currently Amended)** A plant having 2-fold or higher FBPase activity compared to the ~~original one~~ wild variety of said plant, characterized in that a FBPase/SBPase gene is introduced into the chloroplast genome of higher plants and expressed using a chloroplast transformation technique.

**17. (Currently Amended)** A plant having two-fold or higher enhanced photosynthesis rate as compared with the wild variety of said plant, characterized in that a FBPase/SBPase gene is introduced into the chloroplast genome of higher plants using a vector according to claim 1, followed by expression.

**18. (New)** The vector as claimed in claim 10, wherein the promoter is psbA promoter.

**19. (New)** The vector as claimed in claim 10, wherein the terminator is rps16 terminator.